20TETO'92h65007

FIG. 1

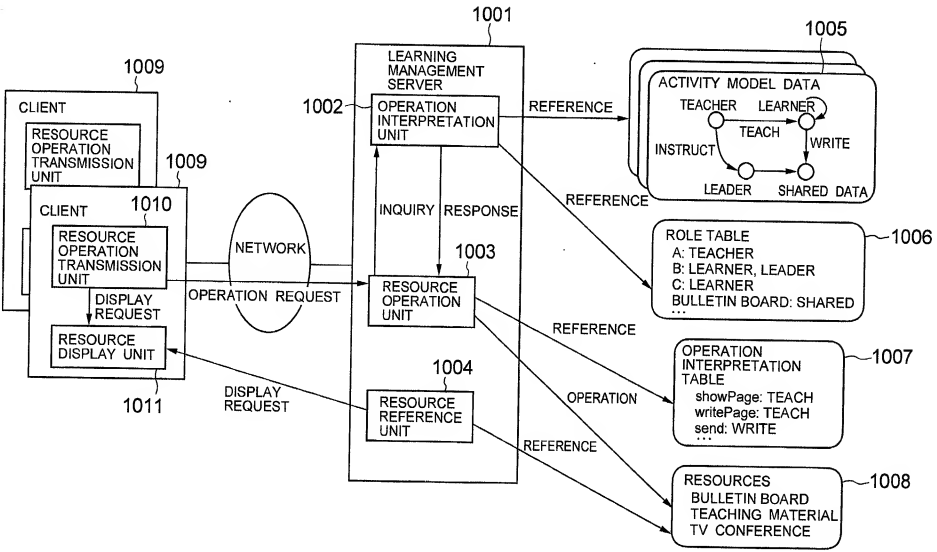

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FIG. 2

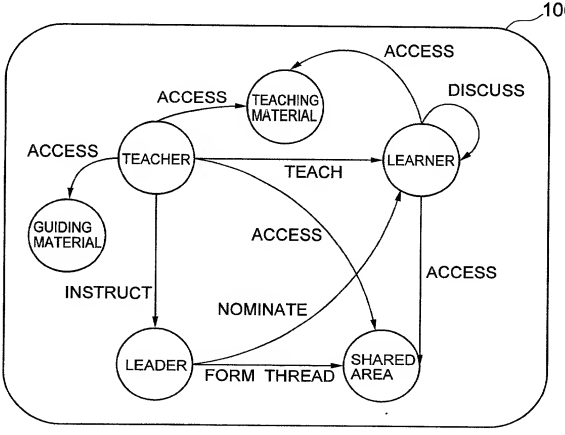

FIG. 3

1006

RESOURCE ID	ROLES OF 1ST MODEL	ROLES OF 2ND MODEL	-----
USER A	LEADER, LEARNER		
USER B	LEARNER		
USER C	LEARNER		
USER D	TEACHER		
BULLETIN BOARD	SHARED AREA		
CHAT BOARD	SHARED AREA		
-----	-----	-----	-----

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FIG. 4

1007

OPERATION PATTERN	BEHAVIOR	OBJECT LIST
WRITE(BOARD, ARTICLE)	WRITE	BOARD
WRITE TO(BOARD, ARTICLE,WHO)	DISCUSS	WHO
GET(MATERIAL)	REFER	LEARNING MATERIAL
⋮	⋮	⋮

FIG. 5

5001

BEHAVIOR NAME	SUBJECT	OBJECT LIST
TEACH	TEACHER	LEARNER
ACCESS	TEACHER	LEARNING MATERIAL
ACCESS	TEACHER	GUIDING MATERIAL
ACCESS	LEARNER	LEARNING MATERIAL
ACCESS	TEACHER	SHARED AREA
ACCESS	LEARNER	SHARED AREA
INSTRUCT	TEACHER	LEADER
NOMINATE	LEADER	LEARNER
DISCUSS	LEARNER	LEARNER
DISCUSSION THREAD CREATION	LEADER	SHARED AREA
ROLE ALLOCATION	LEADER	LEARNER TASK DATA

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FIG. 6

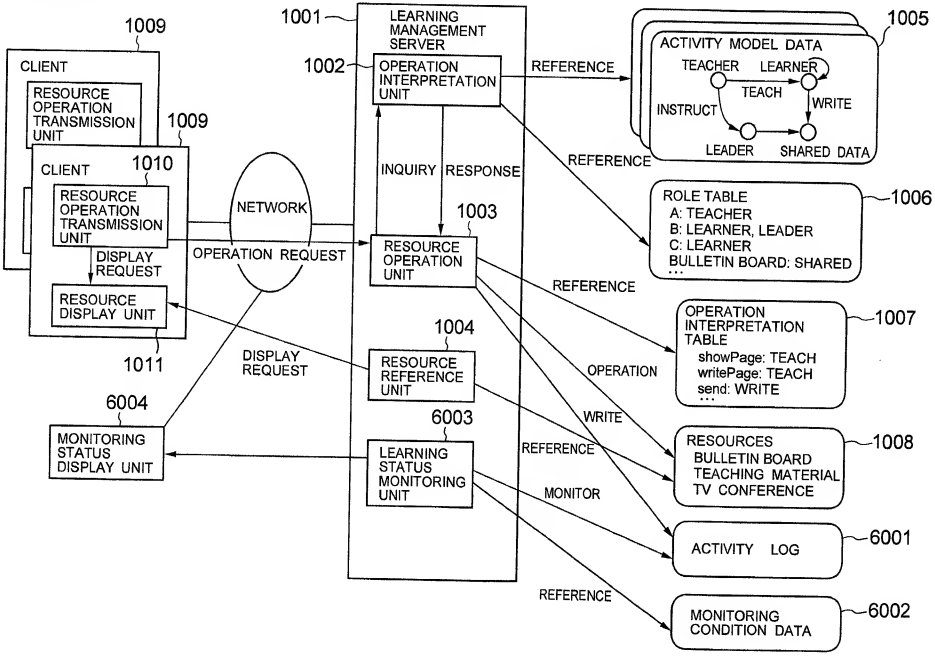
1009
CLIENT
RESOURCE OPERATION TRANSMISSION UNIT
1009
CLIENT
1010
RESOURCE OPERATION TRANSMISSION UNIT
DISPLAY REQUEST
RESOURCE DISPLAY UNIT
1011
NETWORK
OPERATION REQUEST
DISPLAY REQUEST
6004
MONITORING STATUS DISPLAY UNIT
1001
LEARNING MANAGEMENT SERVER
1002
OPERATION INTERPRETATION UNIT
INQUIRY
RESPONSE
1003
RESOURCE OPERATION UNIT
1004
RESOURCE REFERENCE UNIT
6003
LEARNING STATUS MONITORING UNIT
REFERENCE
1005
ACTIVITY MODEL DATA
TEACHER
LEARNER
TEACH
WRITE
INSTRUCT
LEADER
SHARED DATA
REFERENCE
ROLE TABLE
A: TEACHER
B: LEARNER, LEADER
C: LEARNER
BULLETIN BOARD: SHARED
...
1006
REFERENCE
OPERATION INTERPRETATION TABLE
showPage: TEACH
writePage: TEACH
send: WRITE
...
1007
OPERATION
WRITE
REFERENCE
RESOURCES
BULLETIN BOARD
TEACHING MATERIAL
TV CONFERENCE
1008
MONITOR
ACTIVITY LOG
6001
REFERENCE
MONITORING CONDITION DATA
6002

FIG. 7

6001

BEHAVIOR NAME	SUBJECT	OBJECT LIST	COUNT	HISTORY
TEACH	TEACHER	LEARNER	1	USER D TEACHES USER B
ACCESS	TEACHER	LEARNING MATERIAL	10	---
ACCESS	TEACHER	GUIDING MATERIAL	5	---
ACCESS	LEARNER	LEARNING MATERIAL	120	---
ACCESS	TEACHER	SHARED AREA	231	---
ACCESS	LEARNER	SHARED AREA	---	---
INSTRUCT	TEACHER	LEADER	---	---
NOMINATE	LEADER	LEARNER	---	---
DISCUSS	LEARNER	LEARNER	---	---
FORM THREAD	LEADER	SHARED AREA	---	---
ROLE ALLOCATION	LEADER	LEARNER TASK DATA	---	---

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FIG. 8

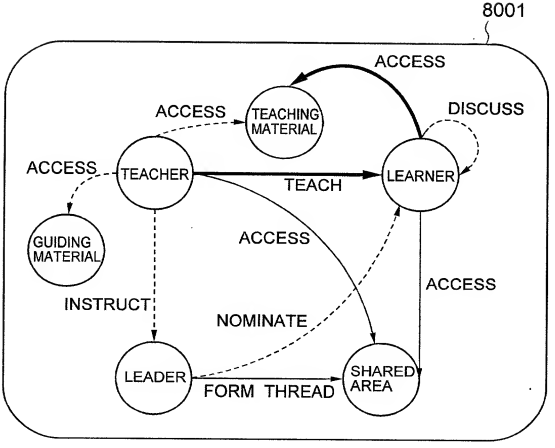

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FIG. 9

9001

RESOURCE ID	ROLE	ACTIVITY STATUS
USER A	LEADER	
	LEARNER	
USER B	LEARNER	
USER C	LEARNER	
USER D	TEACHER	

FIG. 10

10001

RESOURCE ID	ROLE	MONITORING CONDITION
USER A	LEADER	LAPSE TIME > 48 H & ACTIVITY NUMBER < 10
	LEARNER	---
USER B	LEARNER	---
USER C	LEARNER	---
USER D	TEACHER	---

FIG. 11

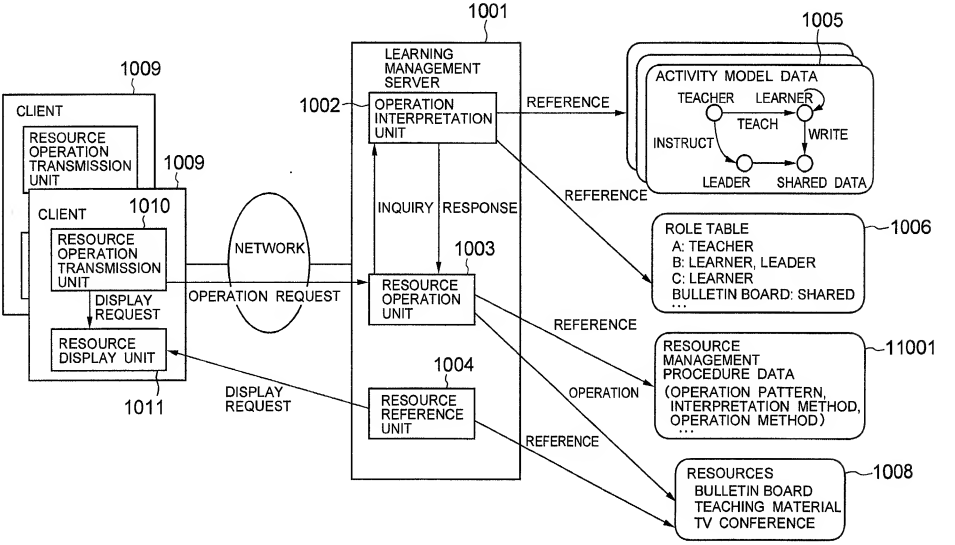
1001
1005
1009
LEARNING MANAGEMENT SERVER
ACTIVITY MODEL DATA
TEACHER
LEARNER
TEACH
WRITE
INSTRUCT
LEADER
SHARED DATA
CLIENT
1002
OPERATION INTERPRETATION UNIT
REFERENCE
RESOURCE OPERATION TRANSMISSION UNIT
1009
CLIENT
1010
RESOURCE OPERATION TRANSMISSION UNIT
INQUIRY
RESPONSE
REFERENCE
ROLE TABLE
A: TEACHER
B: LEARNER, LEADER
C: LEARNER
BULLETIN BOARD: SHARED
...
1006
NETWORK
1003
DISPLAY REQUEST
OPERATION REQUEST
RESOURCE OPERATION UNIT
REFERENCE
RESOURCE MANAGEMENT PROCEDURE DATA
(OPERATION PATTERN, INTERPRETATION METHOD, OPERATION METHOD)
...
11001
RESOURCE DISPLAY UNIT
1004
OPERATION
DISPLAY REQUEST
RESOURCE REFERENCE UNIT
REFERENCE
RESOURCES
BULLETIN BOARD
TEACHING MATERIAL
TV CONFERENCE
1008
1011

FIG. 12

12001

OPERATION PATTERN	INTERPRETATION METHOD	OPERATION METHOD
F(X0, X1, ···, Xn)	M(X0, X1, ···, Xn)	C(X0, X1, ···, Xn)
⋮	⋮	⋮

2013-10-92495001

FIG. 13

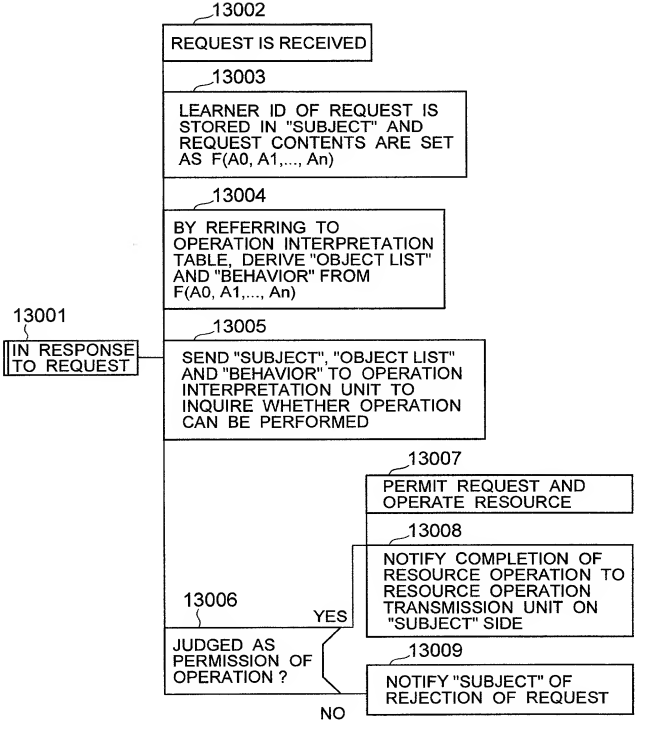

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FIG. 14

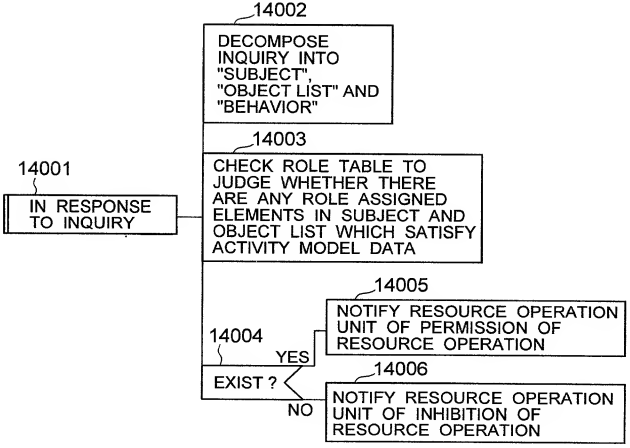
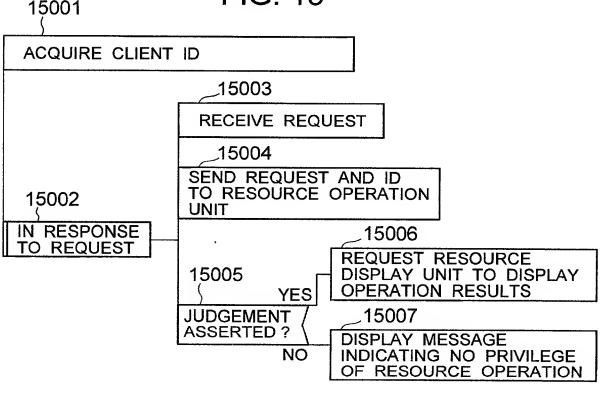


FIG. 15



2011-6245001

FIG. 16

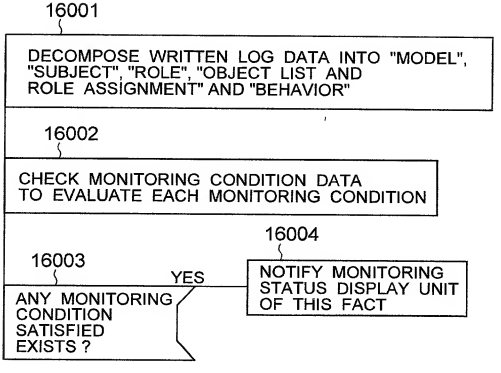
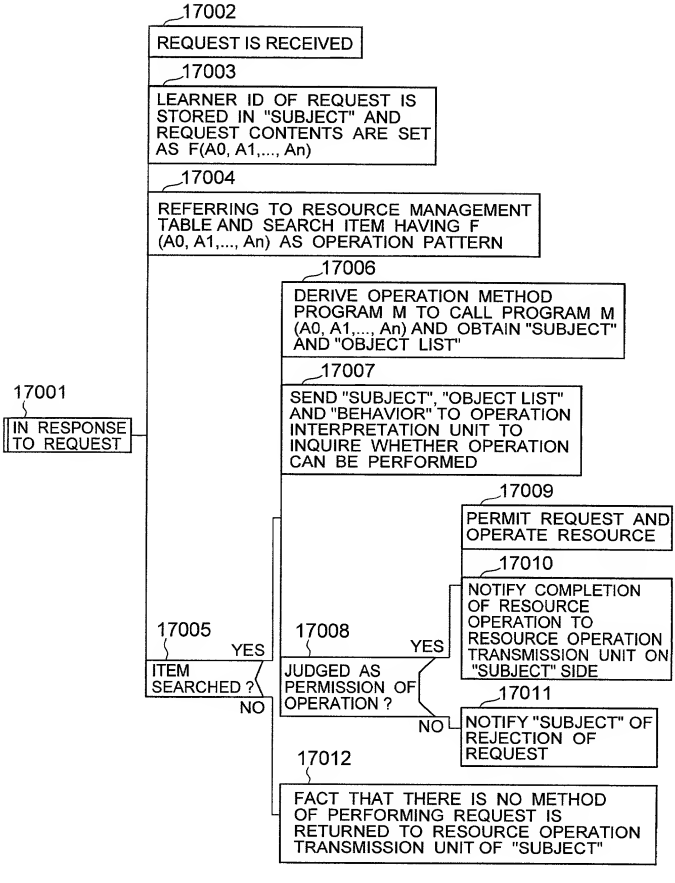


FIG. 17



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